

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES DIVISION**

PART VI -A

WATERBODY MANAGEMENT PLAN SERIES

BARTHOLOMEW LAKE

LAKE HISTORY & MANAGEMENT ISSUES

CHRONOLOGY

DATE – October, 2011

Prepared by Ryan Daniel, Biologist Manager, District 2

Updated: February 2015 by R. Daniel

Updated: February 2018 by R. Daniel

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LAKE HISTORY

GENERAL INFORMATION

Date reservoir formed

Construction of levees along Ouachita River and Bayou Bartholomew in 1930's.

Impoundment

Owner – State of Louisiana.

Purposes for Creation – reservoir created when natural oxbow of Bayou Bartholomew was separated from active channel during construction of the Ouachita River levee system.

Size

800 acres.

Watershed

Approximately 4,120 acres, mostly agricultural, with some residential, and a small amount of forested area.

Pool stage

71.0 ft. MSL

Parish/s located

Ouachita and Morehouse: much of the centerline of the lake forms the boundary between the two parishes.

Border waters

Bayou Bartholomew is adjacent to both ends of the lake and the north end of Bayou DeSiard is connected to Bartholomew Lake via a culvert with control structure near its mid-point lengthwise.

Spillway width

6.5 feet section of 8 ft. x 8 ft. concrete drop box, 2 ft. lower than the open top of structure.

Drawdown description

Structure – 30-inch culvert positioned at bottom of 8 ft. x 8ft. concrete drop box with slide gate operated manually by wheel. This culvert is attached to a 42" outflow pipe with flap gate on the Bayou Bartholomew side of levee. The structure is shown in Figure 1.

Number of culverts - 1

Condition – Good

Drawdown Capability – 8ft., Mean Sea Level (MSL) = 63ft.



Figure 1. Water control structure located at the southern end of Lake Bartholomew, June, 2011.

Who controls

Tensas Basin Levee District owns and operates the structure.

LAKE AUTHORITY

Association

The Bayou DeSiard-Bayou Bartholomew Cut-off Loop Water Conservation Board. The primary purpose of the Board is to establish, maintain, and protect a favorable water level in Bartholomew Lake and Bayou DeSiard, and make them available for all beneficial uses and purposes. The board is currently not active nor has membership been updated. The last listed membership (May, 2011) is in Table 1.

Table 1. Membership of the Bayou DeSiard-Bayou Bartholomew Cutoff Loop Water Conservation Board as of May, 2011.

Appointed By	Board Members	Work Phone
Town of Sterlington – Ouachita Parish Police Jury	Brown, John	(318) 450-2878 (318) 349-4302
Morehouse Parish Police Jury	Cain, Jerry	
City of Monroe Mayor Jamie Mayo	Vacant	
Morehouse Parish Police Jury	Gray, Jim Chairman	
Ouachita Parish Police Jury	Rabb, Morris	
	Stokes, David	

Authorization

Created by State statute in 1962 (See [Appendix A](#)).

Other Authority

City of Monroe – controls pumps at north end of lake used to fill Bartholomew Lake from Bayou Bartholomew, associated with Monroe city water usage.

Tensas Basin Levee District – owns and operates water control structure.

ACCESS

Map with locations included in [Appendix B](#).

Boat Ramps

Public – 1 public ramp located at north end of lake on Ouachita River Levee.

Description: 1 lane, concrete, no designated parking area

Coordinates: N 32°43.273'; W -92°02.331'.

Private – Barrett's (currently in disrepair).

Description: 1 lane, concrete, gravel parking lot, capacity = 15, \$2 fee.

Coordinates: N 32°42.140'; W -92°00.979'.

Piers

Private residential only.

State/Federal facilities

None

Fishing Structures

None

SHORELINE DEVELOPMENT

Residential

Approximately half of entire shoreline (mostly the south end) is in residential development.

Business/Industry

None

Agricultural

Cotton, corn, and soybeans are typically grown near the lake, with some fields irrigated from Lake Bartholomew.

PHYSICAL DESCRIPTION OF LAKE

Shoreline length

44 miles, narrow, winding, stream-like channel, avg. width = 120 ft.

Timber type

Bald cypress *Taxodium distichum* common along shoreline and shallow areas, bottomland hardwood species abundant adjacent to shoreline.

Average depth

14 ft.

Maximum depth

25 ft.

Natural seasonal water fluctuation

2 ft. – 4 ft.

EVENTS/PROBLEMS

Implementation and Removal of Largemouth Bass Slot Limit

A 14 in. – 17 in. protective slot limit for largemouth bass was established as per implementation of the Louisiana Black Bass Management Plan (1990), in 1991. The Plan designated Bartholomew Lake as one of seven “quality” lakes in the state. A “quality” lake is defined as meeting the criteria proven to be associated with the occurrence of increased numbers of largemouth bass greater than 25 inches and/or 10 lbs., but differs in population characteristics of those designated as trophy lakes, which are managed with a 15 in. – 19 in. slot limit. The Bartholomew Lake slot limit was removed in January, 2000 after no significant increase in larger bass was observed through sampling nor reported by anglers.

Additional Water Supply for the City of Monroe

Bartholomew Lake is a reserve water supply for the City of Monroe. Bayou DeSiard, the primary water supply for Monroe, can also be refilled with water from Lake Bartholomew. Water is pumped from Bayou Bartholomew into Bartholomew Lake, where the water can be released through a culvert directly into Bayou DeSiard. Being a reserve water supply may limit drawdown options and places restrictions on water usage. If Bartholomew Lake were drawn down significantly, the immediate refilling of Bayou DeSiard by pumping would not be possible.

Water Level Controversy of 2010

In early 2010, a few homeowners along Lake Bartholomew brought to the attention of the Bayou DeSiard-Bartholomew Cutoff Loop Board and LDWF that they believed the staff gage used for recording water level was incorrect and the lake was not being maintained at the correct MSL. Collaborations between the City of Monroe and DOTD led to the finding that the gage was reading 1 ft. and 1 inch lower than the correct level. It was unknown how long

the staff gage had been incorrectly set. This led to the calibration and relocation of a new staff gage to the southwest corner of the bridge crossing.

2016 Flood

The historic flood of March 2016 caused Lake Bartholomew to rise 6 ft. above normal pool stage. This represented the highest lake level on record. Over 20 inches of rain fell in the area in less than three days. Numerous structures were flooded and damaged, as the water remained high for several weeks. The increased turbidity present during this high water period may have been responsible for largely eliminating the excessive coverage of hydrilla (*Hydrilla verticillata*) that had plagued the lake in recent years.

MANAGEMENT ISSUES

AQUATIC VEGETATION

There have been periodic problems with nuisance aquatic plant species. Most of the problems have been with the floating species duckweed *Lemna sp.* and water hyacinth *Eichhornia crassipes*. Hydrilla, a non-native submerged species, was first detected in 2004 near Barrett's boat ramp. By summer 2015, coverage had expanded along the entire length of the lake with the exception of the extreme south end, one mile from the control structure at the levee. Multiple herbicide treatments have been made since 2010 to control its expansion (see Treatment History below). As of December 2017, hydrilla is currently very scarce in the lake. This is likely a byproduct of turbidity associated with the flood of 2016, the drawdown of 2016-2017, and introductions of grass carp (*Ctenopharyngodon idella*). The steep drop-offs in much of the lake limit submerged species to areas adjacent to the shoreline and in shallow areas less than 6 ft. deep. Alligator weed *Alternanthera philoxeroides* and water primrose *Ludwigia uruguayensis* are found in shallow areas around the shoreline. The native submerged species coontail *Ceratophyllum demersum* is common in the shallows and currently at beneficial amounts. In October 2017, giant salvinia (*Salvinia molesta*) was first detected in the lake and was treated immediately with herbicide. It will become a priority for control.

Type Map

Hughes and Walker 1972 (LDWF) August Condition Report of Bartholomew Lake: reported most serious infestations were of alligator weed and filamentous algae *Chara sp.* Other species documented include: duckweed, watermeal *Wolffia* spp., coontail, fanwort *Cabomba caroliniana*, and water hyacinth.

LDWF Type Map narrative from 2016 is located in [Appendix C](#).

LDWF Type Maps from 2006, 2014, and 2015 are located in Bartholomew Lake MP-C.

Treatment History by Year

Biological

2013 - A total of 700 triploid grass carp were stocked in April for the control of hydrilla. The carp were from 12 - 20 inches in length and were stocked at Barrett's boat launch.

2015 - An additional 700 triploid grass carp were stocked in October at Barrett's boat launch.

Mechanical

None

Chemical

Routine spraying of contact herbicides for control of floating and emergent species has been conducted by LDWF spray crews since the 1960's. Species most commonly treated include: alligator weed, duckweed, and water hyacinth. Historically, diquat, glyphosate, and 2, 4-D have been the most commonly used herbicides.

2010 Hydrilla Treatment - In August 2010, a 12-acre infestation of hydrilla (Figure 2) was treated with Aquathol Super K (granular endothal) at a concentration of 3.5 ppm. This treatment temporarily reduced the coverage of hydrilla, although expansion of the infestation was documented in spring 2011. Treating late in the growing season may have contributed to the ineffectiveness of this treatment.

2011 Hydrilla Treatment – Approximately half of the current 14 acre hydrilla infestation was treated in April 2011 with Aquathol Super K at a concentration of 4.0 ppm. This treatment was conducted on the western shoreline of the infested area, since there is no residential irrigation in this area. The hydrilla continued to expand and a late summer application consisting of a surface and subsurface application of Cutrine Plus algaecide (chelated copper) mixed with Knockout (diquat dibromide) (3:2 ratio; 5.5 gal/acre) was conducted on the eastern shoreline of the impacted area. Multiple treatments at the culvert connecting Bartholomew Lake to Bayou DeSiard were also conducted with both Aquathol Super K and the Cutrine Plus/Knockout combination. A total of 25 acres of hydrilla were treated in 2011.

2012- 2014 Hydrilla and Other Vegetation Control – Multiple treatments were made in 2012 and 2013 for hydrilla with diquat dibromide and Red River 90 surfactant at a rate of 1 – 2 gal/acre. Treatments in 2013 were made primarily around private properties in an effort to provide boating and fishing access. In 2014, hydrilla control with herbicide was limited to the area in the vicinity of the culvert to prevent introduction into Bayou DeSiard. Herbicide applications were reduced because of insignificant results from past applications and the 2013 grass carp stocking. A small amount of common salvinia was detected near the dirt boat launch adjacent to Hwy. 165 in 2012. It was immediately treated with diquat dibromide (1.0 gal.'s./acre) and has not been observed since. Alligator weed, water hyacinth, pennywort, and American lotus were also treated with herbicides during this period. Table 2 shows the number of acres treated for each species. Water hyacinth and lotus were treated with glyphosate (0.75 gals/acre) or 2,4-D (0.5 gals/acre), depending on the time of year, while other emergents were treated with imazamox (0.5 gals/acre; residential areas) or imazapyr (0.5 gals/acre; non-

residential areas).

Recent (2015 – 2017) – Multiple herbicide applications were made to hydrilla in 2015. Liquid endothall was applied at a concentration of 4 ppm to a severe infestation along Eastlake Dr., just north of the bridge. Results were considered successful, with nearly an 80% reduction in the treatment area. Other areas, such as at boat ramps, severely infested residential areas, and near the culvert connected to Bayou DeSiard, were treated by sub-surface injections of diquat. Scattered water hyacinth was treated with glyphosate, while emergent species were treated with imazamox. Control of common salvinia was necessary in 2016, while giant salvinia was first detected and treated in October 2017. Both species of salvinia were treated with either a glyphosate/diquat mixture (growing season) or with only diquat (winter months). Turbulence surfactant (0.25 gals/acre) was used with all salvinia treatments.

Table 2. Acres of vegetation treated with herbicide in Lake Bartholomew, 2012 - 2017.

Year	Alligator weed/ Primrose	Hydrilla	Water Hyacinth	Pennywort	American Lotus	Salvinia spp.
2012	73	74	155	0	0	0
2013	65	66	122	18	44	0
2014	88	2.5	17	1.5	0	0
2015	59	45	21	0	0	0
2016	96	0	43	0	0	32
2017	22	0	20	0	0	18

HISTORY OF REGULATIONS

Recreational

Black Bass (Largemouth *Micropterus salmoides* or Spotted *M. punctatus*) State Regulations have been in effect with the exception of a slot limit imposed from April 1, 1991 – January 20, 2000. Currently: 10 fish daily creel, no size limit.

April 1, 1991 – January 2000: 14” – 17” slot limit in effect for black bass. Daily creel limit was 8 fish, with no more than 4 bass over the slot allowed. The slot limit was removed due to lack of significant increase of larger size bass in the population.

Statewide regulations are in currently effect for all fish species.

Recreational fishing regulations may be viewed at the link:

<http://www.wlf.louisiana.gov/regulations>

Commercial

Commercial fish netting is prohibited. Effective September 20, 1991, gill nets, trammel nets, hoop nets, and fish seines were prohibited by legislative statute in conjunction with the implementation of a slot limit for black bass in April, 1991.

The statewide commercial fishing regulations may be viewed at the link below:

<http://www.wlf.louisiana.gov/regulations>

DRAWDOWN HISTORY

Drawdown of 2016 – 2017: Lake Bartholomew was lowered approximately 3 ft. beginning in mid-October 2016. The gates on the control structure were closed in early February 2017, and the lake returned to pool stage by the end of the month. The drawdown was initiated by the City of Monroe and followed guidelines provided by LDWF. The primary purpose of the drawdown was for repairs to private property following the flood of March 2016. A stated secondary purpose was for control of nuisance vegetation, although hydrilla coverage was not significant in 2016. The reduced coverage of emergent vegetation in 2017 may have been the result of this fall/winter drawdown.

Prior to the 2016 drawdown, no significant drawdowns of Bartholomew Lake had been documented. Conversation with board members, residents, and Tensas Basin Levee District personnel has led to the determination that only occasional drawdowns of 2 ft. or less have ever been performed. Past drawdowns may have not involved LDWF and taken place directly between the Board and Tensas Levee District. A 5 ft. fall/winter drawdown was approved by LDWF in 1997 for dock repair and hyacinth control. Actual reduction in lake elevation did not exceed 2 feet according to witnesses. Another request was made in 1998 for a 4 ft. fall/winter drawdown for dock repair, but also did not exceed 2 ft. A drawdown was proposed by the Board in 2009 and agreed upon by LDWF, but it did not occur due to heavy rainfall. The 30-inch culvert is most likely a limiting factor, in that it has inadequate flow capacity.

FISH KILLS/ DISEASE HISTORY/ LMBV

There have been no reports of fish kills or disease from Bartholomew Lake.

CONTAMINANTS/ POLLUTION

No fish consumption advisory has been issued for Bartholomew Lake

BIOLOGICAL

Fish samples

History – Standardized sampling (as per LDWF guidelines) was initiated in 1990, while rotenone sampling was conducted from 1968 through 1992.

Table 3. Summary of past and scheduled sampling for Lake Bartholomew.

BARTHOLOMEW LAKE SAMPLING
Note: All sampling conducted as per LDWF Standardized Sampling Guidelines.

1968 - 1987	<p>Rotenone Sampling Only; conducted in the following years: 1968, 1969, 1972, 1975, 1976, 1978, 1979, and 1987. <i>A rotenone sample consists of a 1-acre area blocked off with a net and the fish toxicant rotenone applied throughout, and fish collected for an hour after initial application and again the following morning.</i></p>
1990	<p>Electrofishing: (8)15 minute samples in fall and (1) 15-minute sample in spring. <i>Note: electrofishing samples are defined as 900 seconds of time that electrical current is actually being applied into the water. In addition, other parameters such as sampling equipment, time of day, time of year and sample site are all consistent.</i></p> <p>Gill Nets: 3 samples in winter. <i>Note: a gill net sample consists of 4 gill nets of the following mesh sizes fished simultaneously in the same area: 2.5", 3.0", 3.5", and 4.0". Nets fished overnight for approximately 24 hrs.</i></p> <p>Shoreline Seining: 5 samples during spring and summer. <i>Note: a seine sample is defined as a minimum of a 1 quadrant of a circle haul at each location.</i></p>
1991	<p>Electrofishing: (4)15 minute samples in spring and (8) 15 minute samples in fall</p> <p>Gill Nets: 3 samples in winter</p> <p>Rotenone: 2 samples in summer</p> <p>Shoreline Seining: 6 samples in spring and summer</p>
1992	<p>Electrofishing: (6)15 minute samples in spring and fall</p> <p>Recreational Angler Creel Survey: 6 surveys/month, 12 months <i>Note: A recreational angler creel survey consists of acquiring information from anglers concerning their fishing trip, including measuring harvested fish. The survey is conducted at a selected boat ramp, with duration being 5 hours.</i></p> <p>Rotenone: 2 samples in summer</p>
1993	<p>Electrofishing: (6)15 minute samples spring and (4) 15 minute samples in fall</p> <p>Gill Nets: 3 samples during winter *4.0" nets not fished</p>
1994	<p>Electrofishing: (6)15 minute samples in spring and fall</p>
1995	<p>Electrofishing: (6) 15 minute samples in spring and fall</p> <p>Recreational Angler Creel Survey: 6 surveys/month, 12 months</p> <p>Rotenone: 2 samples during summer</p>

1996	Electrofishing: (6) 15 minute samples spring and fall Gill Nets: 2 samples during winter
1997	Electrofishing: (6) 15 minute samples in spring and (9) 15 minute samples in fall Gill Nets: 2 samples during winter
1998	Electrofishing: (6) 15 minute samples in spring and (7) 15 minute samples in fall Gill Nets: 3 samples during winter
1999	Electrofishing: (6) 15 minute samples in spring and (7) 15 minute samples in fall - Largemouth Bass Age and Growth
2000	Gill Nets: 3 samples during winter
2001	Electrofishing: (6) 15 minute samples in spring and (6) 15 minute samples in fall - Largemouth Bass Age and Growth, Genetics Gill Nets: 3 samples during winter
2004	Electrofishing: (6) 15 minute samples in spring and (6) 15 minute samples in fall - Largemouth Bass Age and Growth, Genetics Shoreline Seining: 3 samples in summer
2005	Gill Nets: 3 samples during winter
2006	Aquatic Type Map
2007	Electrofishing: (6) 15 minute samples in spring and (6) 15 minute samples in fall - Largemouth Bass Age and Growth
2008	Gill Nets: 4 samples during winter
2010	Electrofishing: (4) 15 minute samples in spring and (5) 15 minute samples in fall - Largemouth Bass Age and Growth
2012	Gill Nets: 4 samples during winter
2013	Electrofishing: (4) 15 minute samples in spring and (4) 15 minute samples in fall, plus 15 min. forage sample Lead Net Sampling in fall, 3 samples
2014	Aquatic Type Map
2015	Gill Nets: 3 samples during winter Aquatic Type Map
2016	Electrofishing: (4) 15 minute samples in spring and (4) 15 minute samples in fall, plus 15 min. forage sample Aquatic Type Map

2017	Lead Net Sampling in fall, 3 samples Water Quality Sampling, monthly
2018	Gill Nets: 3 samples during winter
2019	Electrofishing: (4) 15 minute samples in spring and (4) 15 minute samples in fall, plus 15 min. forage sample
2020	Lead Net Sampling in fall, 3 samples

Stocking History

The following list in Table 4 is of the fish stockings in Bartholomew Lake from 1974 through the present. Hybrid striped bass *M. chrysops* x *M. saxatilis* (HSB) and Florida largemouth bass *M. floridanus* (FLMB) have been the most commonly stocked fish. No fish have been stocked since 1999.

Table 4. History of fish stockings in Bartholomew Lake, 1974 – present.

<u>Date</u>	<u>Species</u>	<u>Size</u>	<u>Number</u>	<u>Notes</u>
1974	northern largemouth	unknown	11,845	
1976	hybrid striped bass	unknown	10,202	
1977	hybrid striped bass	unknown	14,250	
1977	blue and channel catfish	unknown	8,000	
1978	hybrid striped bass	unknown	10,530	
1978	blue and channel catfish	unknown	1,000	
1979	blue catfish	unknown	10,000	
1979	hybrid striped bass	unknown	14,956	
1980 - 1990	hybrid striped bass	unknown	105,479	avg. 9,600 stocked/yr.
1990	flathead catfish	unknown	4,667	
1991	Florida largemouth bass	unknown	99,003	
1992	Florida largemouth bass	unknown	81,287	
Jan. 1993	Florida largemouth bass	fingerlings	41,813	
March 1994	Florida largemouth bass	1 year-old	326	
May 1994	Florida largemouth bass	fingerlings	5,716	
May 1994	Florida largemouth bass	fingerlings	1,203	
May 1994	Florida largemouth bass	fingerlings	2,467	
May 1994	Florida largemouth bass	sac fry	40,902	
April 1995	Florida largemouth bass	adv. fry	89,402	
May 1996	Florida largemouth bass	fingerlings	50,225	
June 1996	Florida largemouth bass	fingerlings	8,142	
June 1998	Florida largemouth bass	fingerlings	22,000	
June 1999	alligator gar	fingerlings	10,000	
April 2013	Triploid grass carp	Average length = 15"	700	

Hybrid Striped Bass- The stocking of hybrid striped bass was discontinued in 1991 due to a declining popularity among anglers. No requests have been made for them to be stocked again for angling purposes.

Largemouth Bass- The stocking of Florida largemouth bass into Bartholomew Lake was initiated in 1991 and discontinued after 1998. The stockings were in an effort to increase the presence of the Florida gene in the population and were made in conjunction with the implementation of a 14" – 17" slot limit to promote a trophy fishery for largemouth bass.

Alligator Gar – This single stocking in 1999 was considered to be experimental. A residual population had existed for many years previous in Bartholomew Lake, and when fingerlings became available from USFWS, a trial stocking was made to evaluate stocking success and possibly restore a population in the lake. Success of this stocking is still unknown.

Catfish- Blue, channel, and flathead catfish have been stocked for the purpose of shad and forage control, but also to satisfy angler requests.

Other Species –Self-sustaining populations of other recreational species in Bartholomew Lake negate the need for any supplemental stockings. No current evidence indicates a need for additional species or stockings.

Species profile

A post impoundment list of fishes sampled in Bartholomew Lake is found in [Appendix D](#).

Genetics

Only the Florida largemouth bass has been stocked into Bartholomew Lake, with the exception of a single stocking of northern largemouth bass in 1972. Florida bass are typically stocked into waterbodies in which they are believed to have the potential to grow to a large size and produce quality size bass. Stocking was initiated in 1991 and discontinued after 1998. A genetic sample taken in 1991 did not reveal the presence of the Florida bass in the population. Genetic samples taken during the slot limit years in 1994 and 1997 showed an increasing percentage of Florida genetics with 18% and 33% respectively containing the Florida genes. The slot limit for bass was removed in 2000, and Florida bass stocking was discontinued. Genetic analyses of largemouth bass have been conducted since then, in 2001 and 2004. Both samples revealed the Florida gene to be present in 25% of the fish with pure Florida bass comprising 3% and hybrids (Florida x northern) comprising 22% in both samples.

Threatened/endangered/exotic species

No fish species sampled.

CREEL

The objective of a creel survey is to determine a relative index of fishing pressure, catch, harvest, success, and preferred species fished for. The following creel surveys were initiated primarily to obtain information about angler harvest of largemouth bass to better evaluate the effectiveness of the recently implemented slot limit on bass.

Historic Information/Type

1992 Recreational Angler Survey - This creel survey was an access point survey designed to provide monthly estimates of total catch, harvest, length frequency of the harvest, and release frequency by species. Surveys were performed 6 days a month, 12 months a year, at a designated boat ramp. Dates and ramps were selected randomly, with 4 of the days per month being on weekends. All anglers completing a fishing trip were interviewed over a 5-hour period in either the morning or evening. Anglers were asked what species they fished for, how long they fished, how many they caught, how many they kept, and how far they traveled to reach Bartholomew Lake. Ten fish of each species were randomly selected from each creel to measure for total length.

1995 Recreational Angler Survey – same as in 1992.

HYDROLOGICAL CHANGES

Bartholomew Lake has undergone numerous hydrological changes over the last century. These changes include the following:

1. Impoundment of active oxbow of Bayou Bartholomew during the construction of the Ouachita River levee system in the 1930's. This resulted in permanent separation from Bayou Bartholomew and the Ouachita River and minimal water level fluctuation within the impoundment.
2. A culvert with a control structure was placed underneath an earthen dam that separated Lake Bartholomew from Bayou DeSiard during construction of U.S. Hwy. 165 in the 1960's. This structure physically isolated the two waterbodies, though water can be released through the culvert into Bayou DeSiard.
3. Also in the 1960's, two high capacity electric pumps were placed in Bayou Bartholomew at the north end of Bartholomew Lake for filling the lake to satisfy property owners and so that water may be diverted into Bayou DeSiard for use as the City of Monroe's primary drinking water supply. This has resulted in Lake Bartholomew being maintained near pool stage throughout the year so that water levels in Bayou DeSiard will not become critically low, especially during drought conditions
4. Agricultural irrigation from Bartholomew Lake has presumably decreased due to continued residential development around the lake. Residential irrigation is common, though does not significantly impact water levels.
5. Siltation from agricultural activities has also presumably declined due to reduction in agricultural area surrounding the lake.

WATER USE

Municipal Water Supply

Bartholomew Lake serves as an integral water source for Bayou DeSiard, which is the primary water supply for the City of Monroe. Water may be released from Bartholomew Lake into Bayou DeSiard via a culvert for refilling purposes when water levels become low. Bartholomew Lake may be refilled by pumping from Bayou Bartholomew.

Recently, Bartholomew Lake has been proposed to serve as a new water source for the town of Sterlington, which currently receives water from another provider. Plans to withdraw water directly from the lake for treatment at a proposed nearby treatment plant have been investigated. The town of Sterlington is also considering drilling water wells as another option in their effort to become self-sufficient for drinking water.

Recreational:

1. Fishing - Open to public.
2. Skiing – Not restricted, but not suitable due to submerged obstructions.
3. Scuba Diving - Not suitable (murky water).
4. Swimming - No public swimming area.
5. Hunting - Not permitted.

Irrigation

A total of five agricultural water pumps have been identified recently along the shoreline of Bartholomew Lake for the purpose of crop irrigation. It is not clear whether all of these were operational. Residential irrigation of lawns is commonly performed throughout the growing season.

APPENDIX A.

[\(return to authorization\)](#)

LOUISIANA REVISED STATUTES

TITLE 38. PUBLIC CONTRACTS, WORKS AND IMPROVEMENTS

PART VI. BAYOU DESIARD-BAYOU BARTHOLOMEW CUT-OFF LOOP WATER CONSERVATION BOARD

§2751. Creation

There is hereby created a water conservation board to be known as the Bayou DeSiard-Bayou Bartholomew Cut-Off Loop Water Conservation Board of Ouachita and Morehouse Parishes, Louisiana.

Added by Acts 1962, No. 308, §1.

§2752. Board as political agency; purpose

The board shall be a political agency of the state of Louisiana and, subject to the limitations and restrictions set out in this Part, shall have authority to establish, maintain and protect a favorable level of fresh water in Bayou DeSiard and Bayou Bartholomew Cut-Off Loop in Townships 18, 19 and 20 North, Ranges 3 and 4 East, in the Parishes of Ouachita and Morehouse, state of Louisiana, to be available for all beneficial uses and purposes.

Added by Acts 1962, No. 308, §2.

§2753. Powers

The board shall have the power to sue and be sued; to buy and sell; to exercise the right of expropriation; to own, maintain and operate property, both movable and immovable, to acquire servitudes, rights of way and flowage rights, to negotiate and execute contracts; to cooperate with the state of Louisiana or any agency or political subdivision thereof or with the government of the United States or any department or agency thereof on any basis that the board shall deem advisable for the joint or separate construction, ownership, operation and maintenance of pump facilities, pipelines, flood gauges, water conveyors and other devices, equipment and property; to accept gifts or contributions of any nature from the state of Louisiana or the United States or any agency or political subdivision thereof; and to make and collect reasonable charges or fees for its services in connection with the water made available by any facilities provided by said board; provided, no charges shall be assessed against any municipality or other political subdivision, and that in exercising the powers and authority aforesaid, the board shall cooperate with, and shall act under the supervision and control of, the Louisiana Department of Public Works.

Added by Acts 1962, No. 308, §3.

§2754. Restrictions

The board shall not build any dam, sill or other restrictive structure of any kind which will reverse or otherwise materially affect the natural flow of Bayou Bartholomew; the board shall, however, be empowered to remove water from Bayou Bartholomew at any time when suitable water is available. The board shall not have authority to destroy or substantially diminish prior or

vested water rights or uses.

Added by Acts 1962, No. 308, §4. Amended by Acts 1974, No. 136, §1.

§2755. Membership

The board shall consist of six members who shall be appointed by the governing authorities of Ouachita and Morehouse Parishes for a term of four years and until their successors have been named and qualified, as follows:

One member shall be appointed from a list of three names submitted to the police jury of Ouachita Parish by the Monroe Utilities Commission; one member to be appointed from a list of three names submitted to the Ouachita Parish Police Jury by the town council of the municipality of Sterlington, such persons to be legal residents of the municipality of Sterlington; one member to be appointed by the police jury on its own motion; one member to be appointed from a list of three names submitted to the police jury of Morehouse Parish by the mayor and board of aldermen of the city of Bastrop, Louisiana; one member to be appointed from a list of three names submitted to the police jury of Morehouse Parish by the Bastrop Association of Commerce and Industry; and a sixth member from Morehouse Parish to be appointed by the police jury of Morehouse Parish on its own motion.

Added by Acts 1962, No. 308, §5. Amended by Acts 1966, No. 448, §5.

§2756. Officers; meetings; quorum

The board shall elect from its own membership a chairman, a secretary and a treasurer. Four members of said board shall constitute a quorum for the transaction of business and the meetings of the Board shall be held at such time and place as shall be fixed at the call of the chairman after due notice to the full membership.

Added by Acts 1962, No. 308, 6.

§2757. Compensation; expenses

The membership of said board shall serve without compensation for its services to the board, but it shall be entitled to reimbursement for actual expenses incurred in the performance of its duties.

Added by Acts 1962, No. 308, §7.

APPENDIX B.

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APPENDIX C

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Lake Bartholomew Type Map Survey

August 10th and 18th, 2016

Prepared by: Ryan Daniel

Description

Vegetation was surveyed on August 10, 2016 from Barret's ramp to the north end, and on the 18th for the remainder of the lake by R. Daniel and C. McPherson. The entire 12.5-mile length of lake was travelled by boat while notes on observed vegetation were taken. The lake was currently near or slightly above pool stage from recent rainfall. Vegetation coverage was documented on a map and notes describing species, coverage, and location were taken. The description below is given north to south for various sections of Lake Bartholomew.

Also refer to field notes and map stored in District 2 files.

North End to Barret's Launch – Coontail growing to depths of 6 ft. along shore; alligator weed and primrose in mats along shore; small patches of water hyacinth; duckweed amongst emergent veg; a few single hydrilla plants were detected in the coontail stands, though submerged aquatic vegetation (SAV) was 99% coontail; common salvinia mixed with duckweed and alligator weed in flat near ramp

Barret's Launch to First Highline – coontail abundant in depths to 7 ft., SAV is 1% hydrilla, 99% coontail; alligator weed growing 15 ft. from shore on first flat on right side.

First Highline to Second Highline – shallows on right side of straight away contained 50% coontail coverage, common salvinia mixed with duckweed near shore and in alligator weed/primrose; small patches of water hyacinth in pockets; hydrilla very scarce; common salvinia mixed with duckweed across from houses on right. The flat on the left just before the second Highline was covered with 50% coontail, 30% alligator weed/primrose and widely scattered common salvinia (very small plants), no hydrilla detected here. Approx. 1 acre of American lotus under the second Highline.

Second Highline to Bridge – 1 acre of American lotus on left flat, 80% coontail coverage, 30% alligator weed/primrose in scattered patches. Eastlake Flat: 10% primrose, mostly along shore, 50% coontail coverage; Cove at Hwy. 165: 20% coontail coverage, thickest on south end of cove, very little emergent or floating. No hydrilla or common salvinia detected in this section.

Bridge to Island Point (on left) – first flat on right south of bridge: 10% coontail coverage, mostly clear; scattered coontail in shallows; Island Point shallows: 70% coontail with scattered mats of filamentous algae

Island Point to South Highline – scattered coontail on first big point on right, to a depth of 5 ft., 30% coverage; no other significant veg. in this section

South Highline to South End – No SAV on 2 shallow points in this section, very little coontail along shore, no other significant veg. in this section

SUMMARY

The near absence of hydrilla in this survey was very surprising as nearly 100 acres were detected during the 2015 type map survey. In 2015, nearly the entire shoreline and much of the shallow pockets and points were nearly totally covered in hydrilla. Coontail has replaced it in most places, though it is not nearly as dense as the hydrilla stands were. Only a few scattered individual plants of hydrilla were observed in 2016, with none being detected south of the second highline from Barret's launch. It is estimated that there is currently less than 0.1 acre of hydrilla lake wide. One explanation is that the extended high water period associated with the flooding in March may have suppressed the hydrilla and given the coontail a growth advantage. The expansion of common salvinia is of concern. It was observed in June of this year for the first time since 2013. It has formed small surface mats amongst mats of alligator weed, mostly from the area between the highlines on the north end to Barret's launch. Numerous small scattered plants were observed in this section. Total coverage of common salvinia is likely 2 – 4 acres and will require immediate treatment. Coverage of other emergent (alligator weed and water primrose) and floating (duckweed and water hyacinth) species is similar to what has been documented in past years and is mostly confined to the immediate shoreline and shallow flats and pockets.

Species List

Submersed Aquatic Vegetation

Hydrilla *Hydrilla verticillata*

Coontail *Ceratophyllum demersum*

Emerersed Aquatic Vegetation

Water Primrose *Ludwigia uruguayensis*

Alligator weed *Alternanthera philoxeroides*

American lotus *Nelumbo lutea*

Floating Aquatic Vegetation

Duckweed *Lemna* spp.

Filamentous Algae *Pithophora* spp.

Water hyacinth *Eichhornia crassipes*.

APPENDIX D

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Fish Species Documented in Lake Bartholomew

AMIIDAE (Bowfin Family)

Bowfin, *Amia calva* (Linnaeus)

ATHERINIDAE (Silverside Family)

Brook Silverside, *Labidesthes sicculus* (Cope)

CATOSTOMIDAE (Sucker Family)

Bigmouth Buffalo, *Ictiobus cyprinellus* (Valenciennes)

Black Buffalo, *Ictiobus niger* (Rafinesque)

Smallmouth Buffalo, *Ictiobus bubalus* (Rafinesque)

Spotted Sucker, *Minytrema melanops* (Rafinesque)

CENTRARCHIDAE (Sunfish Family)

Bluegill, *Lepomis macrochirus* (Rafinesque)

Black Crappie, *Pomoxis nigromaculatus* (Lesueur)

White Crappie, *Pomoxis annularis* (Rafinesque)

Largemouth Bass, *Micropterus salmoides* (Lacepede)

Dollar Sunfish, *Lepomis marginatus* (Holbrook)

Redear Sunfish, *Lepomis microlophus* (Gunther)

Green Sunfish, *Lepomis cyanellus* (Rafinesque)

Longear Sunfish, *Lepomis megalotis* (Rafinesque)

Warmouth, *Lepomis gulosus* (Cuvier)

CLUPEIDAE (Herring Family)

Gizzard Shad, *Dorosoma cepedianum* (Lesueur)

Threadfin Shad, *Dorosoma petenense* (Gunther)

CYPRINIDAE (Minnow Family)

Common Carp, *Cyprinus carpio* (Linnaeus)

Golden Shiner, *Notemigonus crysoleucas* (Mitchell)

Bullhead Minnow, *Pimephales vigilax* (Baird and Girard)

Blacktail Shiner, *Cyprinella venusta* (Girard)

Pallid Shiner, *Notropis amnis* (Hubbs and Greene)

Taillight Shiner, *Notropis maculatus* (Hay)

FUNDULIDAE (Topminnow Family)

Golden Topminnow, *Fundulus chrysotus* (Gunther)

Blackstripe Topminnow, *Fundulus notatus* (Rafinesque)

Blackspotted Topminnow, *Fundulus olivaceus* (Storer)

Southern Starhead Topminnow, *Fundulus nottii* (Agassiz)

App. D cont'd.

ICTALURIDAE (Freshwater Catfish Family)

Yellow Bullhead, *Ameiurus natalis* (Lesueur)
Black Bullhead, *Ameiurus melas* (Rafinesque)
Brown Bullhead, *Ameiurus nebulosus* (Lesueur)
Channel Catfish, *Ictalurus punctatus* (Rafinesque)
Blue Catfish, *Ictalurus furcatus* (Rafinesque)
Flathead Catfish, *Pylodictis olivaris* (Rafinesque)

LEPISOSTEIDAE (Gar Family)

Alligator Gar, *Atractosteus spatula* (Lacepede)
Spotted Gar, *Lepisosteus oculatus* (Winchell)
Longnose Gar, *Lepisosteus osseus* (Linnaeus)

POECILIIDAE (Livebearer Family)

Mosquitofish, *Gambusia affinis* (Baird and Girard)

MORONIDAE (Temperate Bass Family)

White Bass, *Morone chrysops* (Rafinesque)
Yellow Bass, *Morone mississippiensis* (Jordan and Eigenmann)
Hybrid Striped Bass *Morone chrysops* x *Morone saxatilis*

PERCIDAE (Darter and Perch Family)

Cypress Darter, *Etheostoma proeliare* (Hay)

SCIAENIDAE (Drum Family)

Freshwater Drum, *Aplodinotus grunniens* (Rafinesque)